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ABSTRACT

Reported is the third quarter, fiscal year 1974 (March 1, 1974-May 31, 1974) technical progress of Project LIFE (Language Improvement to Facilitate Education), toward developing an instructional system in which filmstrips in the areas of perceptual training, perceptual thinking, and language/reading are used to assist hearing impaired children in acquiring language. Outlined is quarter by quarter progress made on strategies carried over from fiscal year 1973 and 15 strategies for fiscal year 1974 relating to material development and services (such as the development of the Storyland and Holidayland filmstrip series, the My LIFE Pictionary-Multiple Meanings, and a series of language sets on themes including safety, energy, and communication). Activities of the research department field test network (such as corresponding with special research projects and designing auditory supplement packages) from June 1, 1973 through May 31, 1974 and developments in General Electric's (GE) marketing of Project LIFE instructional materials (such as the addition of three audiovisual dealers for marketing the GE/LIFE Program) are summarized. Charted are the dates, personnel involved, locations, and purposes of third quarter meetings between Project LIFE representatives and representatives of various programs and organizations. A symposium presentation which includes a review of Project LIFE's 10-year history, specific program objectives, and a list of materials currently available is appended. (LS)

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TECHNICAL PROGRESS REPORT

Third Quarter

March 1, 1974 - May 31, 1974

Phase III - Ninth Year
Project LIFE - Language Improvement to Facilitate Education

Sponsor
Media Services and Captioned Films
Division of Educational Services
Bureau of Education for the Handicapped
United States Office of Education

EC 070 486

National Foundation for the Improvement of Education

June, 1974

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PROJECT LIFE

Conducted Under
OFFICE OF EDUCATION CONTRACT NO. OEC-0-73-0608
U.S. Department of Health, Education, and Welfare
Washington, D.C.

By Authority of

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of Education
(NFIE--A non-profit tax-exempt foundation
established by the National Education Association)

Dr. Glenn S. Pfau, Project Director

June, 1974

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CONTRACT AND PURPOSE

(3/74 – 5/74)

Herein is the Technical Progress Report for Project LIFE of the National Foundation for the Improvement of Education (NFIE) for the third quarter beginning March 1, 1974 and extending through May 31, 1974. NFIE administers Project LIFE under Contract NO. OEC-0-73-0608. NFIE is an independent non-profit tax exempt foundation created by the National Education Association and headquartered at 1156 Fifteenth Street, N.W. (Suite 918), Washington, D.C., 20005.

Project LIFE--Language Improvement to Facilitate Education--is sponsored by Media Services and Captioned Films, Bureau of Education for the Handicapped, U.S. Office of Education. The Project's initial funding from USOE began in June, 1963. Thus, LIFE is in its eleventh year of operation under USOE sponsorship and one additional year of sponsorship has been approved.

Project LIFE is developing an instructional system that is designed to assist language handicapped children acquire a functional language system. The three major instructional areas are: Perceptual Training, Perceptual/Thinking, and Language/Reading. The prime teaching modality is the filmstrip and it is used in conjunction with one of two interaction devises--the PAL System or the Student Response Program Master. All LIFE instructional materials, as well as the accompanying equipment, is commercially distributed by the General Electric Company through their independent affiliate, Instructional Industries, Inc., Executive Park, Ballston Lake, New York 12019. This distrubition is the result of a contract between NFIE and GE and is approved by USOE.

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In addition to developing instructional programmed filmstrips, LIFE is simultaneously constructing other materials to support the system. These include: story books, single-concept pictionaries, filmstrip reading series, workbooks, instruction manuals, and other related software. Simultaneously, the General Electric Company through their independent affiliate is developing new compatible hardware.

For Fiscal '74, fifteen (15) strategies were outlined for Project LIFE Each strategy was determined by carefully analyzing need areas in the ever-expanding GE/LIFE Program. The report herein identifies each of the strategies and provides a discussion of the progress made on the specific strategies during the third quarter of the contract year. Several strategies from Fiscal '73 were expanded in breadth and/or complexity and carried over to Fiscal '74. Progress on these strategies, as well as on the new ones, are discussed in the following section.

In addition to the report of the Systems Development area, the report of the Research Department is included. This report summarizes the activities in field testing, research and evaluation for the year June 1, 1973 through May 31, 1974.

Project LIFE is physically located in College, Hall, third floor, of Gallaudet College (Seventh and Florida Avenues, N.E., Washington, D.C.). The Project employs 16 personnel in the Systems Development and Research Departments. The National Education Association Accounts and Personnel Departments are continuing to handle the majority of administrative and financial matters under the supervision of NFIE.

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LIFE SYSTEMS DEVELOPMENT STRATEGIES AND PROGRESS

The Project LIFE proposal for Fiscal '74 included fifteen (15) strategies listed as Strategies A through O. These strategies relate to both material development and services to be rendered. Also included in the work scope for Fiscal '74 were three strategies which were expanded from the Fiscal '73 proposal, necessitating a carry-over into the present contract year. This report herein covers the progress made on each of the new strategies and the carry-over strategies during the third quarter, from March 1, 1974 through May 31, 1974.

I. EXPANDED STRATEGIES FROM FISCAL '73

Strategy 1

Reading Comprehension Filmstrips: Plan, develop, and release Levels I-III (24 filmstrips).

Revised: This strategy was expanded to include 28 filmstrips in the reading comprehension series entitled Storyland, and 21 filmstrips in a second series entitled Holidayland.

Quarters 1 through 4, Fiscal '73 (summary)

During Fiscal '73, the Project LIFE Storyland series was expanded to include 28 stories from the original proposed 24 stories. These reading filmstrips were completed and released to the General Electric Company in August, 1973. The teachers manual to accompany the series was drafted and held until final decisions were made during the early part of Fiscal '74 regarding the packaging of the series and the exact design of the instructional manual.

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Plans were constructed for the second reading comprehension series entitled Holidayland. The story lines for nine of the 21 filmstrips were completed and the production layout was finished on five of the programs. Existing art would be utilized from 12 of the Holiday programmed filmstrips in the LIFE Series and complete new design and art work would be needed for nine of the filmstrips.

Quarter 5 (Fiscal '74)--During the first quarter of Fiscal '74, 12 stories were written which completed the story lines for the 21 filmstrips. The Production Department completed the type setting for all of the stories and the overlays for four of the programs for which existing art was utilized. Art was begun on seven of the nine new programs. The final two programs are to be assigned to art in early December. The entire series is projected for release in January, 1974.

Quarter 6 (Fiscal '74)--During the second quarter of Fiscal '74, the design, production, art and photography were completed on the Holidayland Series. Art was completed on the nine new programs, overlays were completed on the ten programs for which existing art was utilized, and for all of the nine new programs. All of the programs were photographed on slides and evaluated in terms of context, aesthetics, and accuracy of information. Modifications were made where needed and the 21 filmstrip series was photographed on 35 mm filmstrip negatives. Buy-offs were completed on the 21 filmstrips.

In addition to completing the Holidayland filmstrip series, the design specifications and layout were completed to make the Teacher's Manual for Storyland camera-ready. This manual provides recommendations for use, the narrative of the filmstrips, and suggested questions for each program.

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Quarter 7 (Fiscal '74)--During this quarter, a comprehensive manual was completed to accompany the Holidayland reading experience filmstrip series. The manual consists of 48 pages, which includes an index of the holidays, recommended procedures for utilization of the filmstrips, a comprehensive listing of general activities to be used with all holidays, the narrative as it appears on each of the filmstrips, the suggested specific activities for each of the holidays and suggested questions to accompany each filmstrip in the series with two questions each relating to main idea, sequence, detail, inferences, and cause and effect. The manual was prepared camera-ready and released to the General Electric Company.

Strategy 2

Spirit Master/Transparency Manuals: Plan, develop, and release Transparency Manuals Levels 1-3.

Modified: The original design for the books called for 30 Spirit Masters each for each of the first three language levels. This was modified in the third quarter to read two books of 30 Spirit Masters for each of the three language levels. This was further modified (as noted in the Fiscal '73 Annual Report) in the fourth quarter to read two workbooks, not Spirit Master books, for each of the three levels.

Quarters 1 through 4, Fiscal '73 (summary)--During Fiscal '73, basic prototypes were designed for the three levels. These were field tested and a page by page analysis was completed with final recommendations made for modifications. After the evaluation and after meeting with the General Electric Company, a decision was

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made to have the six books commercially distributed in workbook rather than Spirit Master form. Thus, major modifications and expansions were needed to prepare materials for the workbook format which would include exercises on the back side of the page, a procedure impossible in the Spirit Master format.

Quarters 5 and 6, Fiscal '74 (summary)--During the first quarter of Fiscal '74, the six workbook designs were completed and evaluated in-house and by consultants. The art work for all of the workbooks was completed subject to additional modification during the next phase of evaluation. Additional pages for review, self-test, and for enjoyment were prepared to become a part of each book.

Six books of 64 pages each were completely designed and all art and production work completed. Copies of the materials were sent to General Electric for their review and evaluation.

Quarter 7--Final modifications were completed on the six books. The title and art work changes were made to call the books "Fun Books." Certificates of completion were designed to be added at the end of each of the books. The forewords and recommended procedure pages were completed and reviewed. All material was then sent to GE for printing. Printing was completed on these books and released for sale by the General Electric Company by the end of May.

Strategy 3

Revision of Field Tested Supplemental Printed Materials: Revise, produce, and release for field testing a Multiple Meaning Manual for Children, a Multiple

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Meaning Manual for Teachers, and the beginning components of the concept dictionary series.

Quarters 1 through 4, Fiscal '73 (summary)--During Fiscal '73, the first of the concept dictionaries entitled My Verb Pictionary was designed, produced and field tested. Modifications were made based on the field testing. Final modifications were then made and the name of the pictionary was changed to My LIFE Pictionary--Verbs. The basic outline of My LIFE Pictionary--Multiple Meanings was completed. It was decided that all art and production work would be performed at Project LIFE on this manual. This would be done during the early part of Fiscal '74.

Quarter 5 (Fiscal '74)--During the first quarter of Fiscal '74, the final blueprints of the press-ready copy of the verb pictionary were reviewed. The printer completed the production of the pictionaries and released them to the General Electric Company. These will be marketed beginning in early 1974.

The outline of My LIFE Pictionary--Multiple Meanings was reviewed and evaluated with necessary modifications and revisions made. In addition, three prototype pages of the manual were prepared for evaluation and a determination of design specifications. The Production Department completed the type setting for the book which includes more than 100 individual words with an average of five meanings each. Most meanings will have one representative sentence, though there are up to three sentences for some meanings. Artwork for the manual is scheduled to begin in January with release of the manual scheduled for the summer of 1974.

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Quarter 6 (Fiscal '74)--Artwork and layout design was begun for the My LIFE Pictionary--Multiple Meanings during the second quarter of Fiscal '74. The total number of visuals will be approximately 500 for this reference book. Approximately 300 visuals were completed and the design layouts for 60 of the pages were completed during this quarter. Camera-ready copy for the entire book is scheduled to be ready by April 26, 1974.

Quarter 7 (Fiscal '74)--Artwork, typesetting, layout, and color separation were completed for the 101 pages of content for the My LIFE Pictionary--Multiple Meanings. In addition, the cover, title page, and foreword were completed. A duplicate draft of the entire book was sent to the General Electric Company for review, evaluation and for use in obtaining bids for the printing of the book. After receiving several bids, General Electric decided to go with a printer in New York City whose press utilizes multiples of 16. This was somewhat different from the original plans and concepts prepared during the original development of the materials. Consequently, eight pages in the manual would be printed without any contents. Thus, a decision was made to add eight words with four multiple meanings each to the contents of the book so that the printing pages would equal 112. This decision was made the last week of May and the tentative date for release of the camera-ready copy has been set for June 7.

Strategy 4--(This strategy was not included in the proposal for Fiscal '73.) Revise, update, and release to General Electric a new Set 1 of the Language/ Reading Series.

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Sufficient field test input was received by the Research Department to indicate the need for several minor modifications to the Set 1 materials. These modifications would better facilitate the initial learning of the concepts taught in Set 1 for a broader handicapped population. In no way would these modifications negatively influence the hearing impaired child's ability to learn the language; instead, the modifications have been found to improve his chances for success and at the same time make it easier for other groups of handicapped children to learn the basic concepts which form the groundwork for all future language filmstrips. The modifications were based on the frame by frame student performance sheets which were received by Project LIFE, as well as recommendations of teachers and the commercial distributor.

Quarters 1 through 4, Fiscal '73 (summary)--During the summer of 1973, evaluation reports were compiled and recommendations were prepared by the Research Department relating to modifications of the Set 1 filmstrips. These reports, along with other data and evaluations which were available were given to the Instructional Material Specialists and the modifications and revisions were undertaken for Set 1. All new artwork was to be prepared for the six instructional sections and the one test section. The story supplement would not be revised. Artwork was then begun and finished on two of the sections.

Quarter 5 (Fiscal '74)--During the first quarter of Fiscal '74, final artwork, production, and photography were completed on the revised Set 1 filmstrips. The programs were shot on slides and tested with different populations in the metropolitan Washington, D.C. area. Any revisions and modifications which were found to be necessary were completed and the programs were then shot on filmstrip and released

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to the General Electric Company on November 19, 1973.

Quarters 6 and 7--No action.

II. WORK SCOPE AND STRATEGIES FOR FISCAL '74

Strategy A

Language Set 29: Design, produce, test, and release Language Set 29.

Quarter 1--During this quarter a complete research and analysis was completed for Language Set 29. The subject matter theme for this set is safety. Each section will emphasize a different aspect of safety with Section A relating to everyday hazards in the home, and Section B relating to electrical and fire hazards in the home. Sections A and B were programmed during the quarter and the Production Department completed the type setting for Section A.

Quarter 2--The design and test items for the remaining instructional sections of Language Set 29 was completed during this quarter. In addition, all type was set for Sections B through F by the Production Department. The Art Department completed the art for Section A. The content of Section C related to safety at play and on the playground. In Section D, the instructional program developed concepts of safety for traveling to and from school including riding the bus, walking, observing signs, and crossing streets. Section E gave instructions on bicycle safety and its application to how, where, and when of bicycle riding. In Section F, safety concepts were developed relating to recreation such as swimming and boating.

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Quarter 3--The art and production work necessary for developmental testing was completed for Sections B through F during this quarter. In addition, the story supplement was written on the life of George Westinghouse. George Westinghouse is one person who has contributed greatly to safety through his invention of the air brakes, alternating current, and other inventions. In addition to the completion of all writing for this section, Sections A through C were photographed for developmental testing and tested at the Carver School. All art and production work in preparation for photography for developmental testing was completed on Sections D through F. These will be tested during the early part of the next quarter and then revisions will be made, the instructional sections will be photographed on 35mm filmstrip negative, and the test (Section G) will be prepared from existing art and it also will be photographed.

Strategy B

Language Set 30: Design, produce, test and release Language Set 30.

Quarter 1--Research and analysis was completed for the overall design of Set 30. The subject matter theme in this set will be energy. Section A and B were programmed during this quarter. Section A presented several sources of energy, from muscle power to other sources. It also included the concepts of potential and kinetic energy with sources of these.

Quarter 2--During this quarter, the Material Design Department completed the programming of the instructional sections of Set 30. Section C developed the concepts of water and wind energy while Section D related to energy from wood

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and coal. Section E was devoted to the energy from petroleum and petroleum products and Section F developed the concepts related to atomic energy. In addition to the completion of the program design, all type was set in Set 30 and the art was completed for Section A.

Quarter 3--The art and production requirements for Sections B through F were completed. Sections A through C were photographed and developmentally tested. Sections D through F will be photographed for testing during the first part of the next quarter and these materials will be tested thereafter.

Strategy C

Language Set 31: Design, produce, test and release Language Set 31.

Quarter 1--The subject matter content for this section was revised and will include the subject matter originally designed for Set 32--transportation. The content for Language Set 32 will be communication, which was originally designed to be Language Set 31. During this quarter, the research and analysis was completed for the subject matter for this set. The basic content for each section was itemized and will be programmed during the next quarter.

Quarter 2--At the beginning of this quarter, the programmer who was assigned to develop this section terminated employment with Project LIFE. Consequently, the development of this strategy did not progress at the rate originally scheduled. However, the strategy has been reassigned to another programmer. During this quarter, Section A with test, has been designed and the type has been set ready for art. This section covers transportation in prehistoric times.

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Quarter 3--During the third quarter of this fiscal year, Sections B through F and the story supplement were written for this set. Section B described transportation during the Middle Ages and the Age of Exploration. Section C described transportation in the Colonial Period while Section D introduced the Steam Age and Section E was a continuation of the Steam Age up to modern transportation. Section F describes modern transportation with a glimpse to possible future means of transportation. The story supplement is the story of Amelia Earhart and her role in aviation history. The type has been set on Sections B through D and the art has been finished on Section A. Sections B and C have been assigned to artists and will be completed the first part of the next quarter.

Strategy D

Language Set 32: Design, develop, test and commercially release Language Unit 32.

Quarter 1--No action.

Quarter 2--The subject matter content for this section was outlined after extensive research. The set was divided into logical sets and the purposes and behavioral objectives were prepared for each of the six instructional sections. In addition, Section A has been designed and the type has been set. The subject matter for this section is communication. Section A developed the meaning of communication, how we communicate, and the development of communication in prehistoric times.

Quarter 3--The design of Sections B through F and the story supplement were completed during this quarter. Section B discussed communication from 1400 to 1700 A.D., Section C covered the period 1800 to 1849, Section D covered

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communication 1850 through 1899. Section E dealt with the communication in the early 20th century up until 1949 and Section F discussed communication from 1950 to the present. The story supplement is on William F. Cody and his contribution to communication. All of the type has been set for the instructional programs and the art work has been completed for testing on Sections A and B.

Strategy E

Language Set 33: Plan, design, produce, test and release Language Set 33.

Quarter 1--No action.

Quarter 2--No action.

Quarter 3--Preliminary research has been undertaken in specifying the specific content to be included in Set 33. The basic content area will relate to weather with possible sub-topics of: the make-up of weather; important weather factors; weather and geography; weather and people; weather and animals; and weather forecasting.

Strategy F

Language Set 34: Design, develop, test, and release Language Set 34.

Quarter 1--No action.

Quarter 2--No action.

Quarter 3--The background research has been begun for Language Set 34. This

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set is projected to include eight (8) filmstrips--one test filmstrip, six teaching filmstrips and one story supplement. These programs will include the general content area of plants and will discuss their identity, composition, role in nature, and role with mankind. The language content will emphasize the complex sentence structure composed of both dependent and independent clauses.

Strategy G

The Verb Series Programmed Filmstrips: Conceptualize and prepare programmatic planning for a special verb series on the passive voice of the verb.

Quarter 1--No action.

Quarter 2--The review of the literature has been begun relating to the deaf's use of the passive voice. This investigation is the responsibility of the Research Department. Preliminary meetings for consultation were held with the linguistic laboratory at Gallaudet College. The goal, prior to the development of the materials, is to establish the specific needs by level and age. Based on these needs, the program outline can be developed, the behavioral objectives established and evaluated. With the approval of the behavioral objectives and sub-strategies, the project will be able to being developing the special verb series on the passive voice.

Quarter 3--Additional information is being obtained from library and resource sources. The structure of this verb series will be prepared during the summer with the help of a special assistant whose primary objective will be to consolidate and develop the structural outline for this series.

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Strategy H

Ditto-Master Books for Language Level IV: Design, produce and release Ditto-Master books for Language Level IV.

Modification: This strategy is herein modified to read "Design and produce two workbooks for Language/Reading Level IV."

Quarter 1--No action.

Quarter 2--A tentative hold has been placed on this strategy until such time as additional field test information is available. Since the first six workbooks were designed based on the field test input, and since very few purchases are being made of the fourth level of language/reading, it might be desirable to hold on completing this until such feedback is available to warrant the production herein.

Quarter 3--No action. (See Quarter 2)

Strategy I

Storybooks 9-32: Write the stories and prepare ancillary art work necessary for the release of storybooks 9-32.

Quarter 1--No action.

Quarter 2--No action.

Quarter 3--No action.

Strategy J

Concept Pictionaries: Plan, design and write two concept pictionaries.

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Quarter 1--No action.

Quarter 2--No action.

Quarter 3--The second concept pictionary, My LIFE Pictionary--Multiple Meanings, was completed during this quarter. Preliminary discussions have been underway as to the content area of the third pictionary. The present plans call for the pictionary to be on adverbs and adjectives. Preliminary designs are underway in terms of format and structure which will be instrumental in the decision making process associated with the content.

Strategy K

Spirit Master Manual for Storyland: Design, develop, test, and prepare for commercial release a Spirit Master Manual to accompany the "LIFE Storyland" reading series.

Quarter 1--During this quarter, a tentative decision was made to hold on this strategy. In lieu of definite action relating to the preparation of materials, the teachers instructional manual for the Storyland Series was modified to include a minimum of ten questions for each of the Storyland filmstrips. If the market potential for such a Spirit Master Manual appears to be adequate as based on the reports during this fiscal year, the Project will proceed with the development of the materials as stated in the proposal.

Quarter 2--No action.

Quarter 3--No action.

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Strategy L

Supplemental Material Development: Update the Teachers Resource Book as new instructional materials become available.

Quarter 1--During this quarter a minimum of ten man-weeks of writing, typing, design, and production time was spent in expanding and updating the teachers resource manual which is to be available in January, 1974. The manual will have a three-ring binder for the cover and will include more than 200 pages of information, tables, and charts. The manual will contain five basic sections which are: Introduction and overview, descriptive rationale, hierarchy of materials, operational procedures, and references and support information. The table of contents is found in Appendix A of this report.

Because of the release date projected for this manual, Project LIFE has included information pertaining to all items which are projected for release and dissemination during Fiscal '74. The information included in the manual is much more comprehensive and includes numerous tables and cross reference information which should assist teachers and researchers in the use of the General Electric/Project LIFE Program.

Quarter 2--Considerable time was spent checking final blue-line copy and providing visuals and additional information as needed during the proofing of the materials.

Quarter 3--No action.

Strategy M

Conduct Experimentation in the Development of New Programming, Production and

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Art Procedures.

Quarters 1 through 3--Specific experiments are not being undertaken. However, new approaches, ideas and techniques are continually being developed in conjunction with the day-to-day operation at Project LIFE. The approaches which maintain or improve quality and are cost-efficient are implemented. Such items have included developmental testing in filmstrips utilizing the PAL machine, cataloging colors and paper textures against type color, type size and format variations.

Strategy N

Work Cooperatively with the Commercial Distributor, GE, to insure that the Objectives of the USOE/NFIE/LIFE/GE Agreements are met.

Quarters 1 through 3--Liaison with the GE representative occurs on a daily basis. The specifics of the "Marketing Progress" are found in the section of this report entitled, "General Electric Marketing Progress."

Strategy O

Perform the Necessary Administrative Functions as Necessitated by the Agencies to Which LIFE is Affiliated.

Quarters 1 through 3--During this fiscal year, Project LIFE has moved from 1156 Fifteenth Street to the campus of Gallaudet College. In addition, supplies are ordered, attendance records maintained, accounts kept, payments authorized and frequent liaison is maintained with NFIE.

Duirng Quarter 3, all materials were officially registered, all reports prepared and all monies paid. Meetings were held with all staff members and a reorganizational

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structure was prepared for implementation on June 1. All artists will be under contract for programs with the exception of the art supervisor. This will assist in meeting commitments and in cost-efficiency. The Production personnel were transferred to the art staff to work under the art supervisor. All art and production work will be viewed as supportive services to the Material Design Specialists. Pertinent meetings with other individuals or groups are listed in the "Summary of Significant Meetings."

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Project LIFE Research Department Report

The Research Department of Project LIFE is operated on a contract to the National Foundation for the Improvement of Education to continue the field test network from June 1, 1973 through May 31, 1974. The report herein summarizes the activities of the Research Department for the year indicated above.

1. Communications with all field test centers and special research projects were maintained. A minimum of two letters and two telephone calls were exchanged with each center.

2. Final reports were received and evaluated from the University of Southern California (Bob Lennan's Dissertation) and Michigan State University (Herbert Oyer and Judith Frankmann, grant OEG-0-73-0423).

3. Consultation has continued with projects in learning disabilities at: Syracuse University (Dr. Louis DiCarlo), Ohio State University (Dr. John Black), Children's Hospital, Columbus, Ohio (Dr. Earl Sherard), Bannatyne Learning Center, Miami, Florida (Dr. Alex Bannatyne), and Johnson Clinic, Lynchburg, Virginia (Jane Johnson).

4. The Research Department has evaluated other response systems for use with the Project LIFE programmed filmstrips. These include the use of "response paddles," "response cards," latent image response sheets, and other response sheets.

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5. The Research Department collected data for the school year 1972-73 on the LIFE materials. This data was catalogued, tabulated and reported.

6. The tabulation of field test data was completed for all data obtained through September of 1973. The number of students for whom data was reported by filmstrip series is as follows.

Perceptual Training:

135 students	three to five years old
472 students	six years old
138 students	seven and eight years old

Perceptual Thinking, Sets 1-4:

204 students	six to twelve years old

Language/Reading, Sets 1-8:

625 students	five to fourteen years old

Language/Reading, Sets 9-16:

210 students	six to seventeen years old

Language/Reading, Sets 17-24:

31 students	seven to fourteen years old

7. The Research Department summarized the pertinent studies undertaken relating to the LIFE materials. Forty-seven studies were summarized and will be part of a comprehensive report. The summaries include: Population, location, title, investigator's summary and contact person for additional information.

8. During this contract year, the Research Department made several research studies (evaluations) of new products. These products included:

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Six workbooks to accompany Language Sets (Units) 1-24; a language stimulation series of visuals; multiple meanings for children pictionary; and the Holidayland Reading Experience filmstrip Series.

9. The Research Department interacted on a daily basis for review of new materials being developed. This review included analysis of: The overview of materials; purposes, behavioral objectives and test items; program drafts; pre-photography review; developmental testing data; and pre-final photography review.

10. The Research Department assisted in the preparation of the Instruction Manual by: Preparing a comprehensive report on evaluation and validation; providing input for all sections of the manual; and reviewing and evaluating the total scope of the content.

11. Inquiries about Project LIFE were answered with an average of seven letters per week.

12. A complete inventory of machines and materials was maintained with quarterly updating of the information.

13. A letter was sent in March by the Director asking that all machines and materials on loan which were not being used for ongoing evaluation and field testing be returned so that such machines and materials could be loaned to other institutions, used for specific research and for preview.

14. Preliminary inquiries were undertaken for a needs assessment for new

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material design. This included assisting an independent contract sponsored by NFIE in doing a comprehensive needs analysis for Project LIFE. This report was completed and delivered to the Director of Project LIFE.

15. The Research Department has spent considerable time in doing background research on auditory supplementation. As a follow-up, the Research Department has designed six prototype auditory supplement packages. These include: Soundtrack for Storyland and Holidayland, auditory discrimination, phonics, teaching sight vocabulary, teaching auditory recognition of letters, and soundtrack for Perceptual/Thinking and Language/Reading. These prototypes will be ready for evaluation by June 30, 1974.

The above fifteen items represent in capsule form the activities of the Research Department for the year ending May 31, 1974. For specific details, the reader is referred to the Project LIFE Technical Progress Reports of June 1 - August 31, 1973, September 1 - November 30, 1973, and December 1, 1973 - February 28, 1974.

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GENERAL ELECTRIC MARKETING PROGRESS

The present quarter, March 1, 1974, through May 31, 1974, marked the third quarter of the formal commercial agreement between the General Electric Company and the National Foundation for the Improvement of Education. The agreement, as signed March 1, 1973 began on September 1, 1973, and will extend through December 31, 1979.

Instructional Industries, Inc., an independent affiliate of the General Electric Company, is responsible for marketing the Project LIFE instructional materials. They noted significant marketing progress on a number of different fronts during the present quarter. The most significant developments are listed in the following paragraphs:

1. A listing of audiovisual dealers responsible for marketing the GE/LIFE Program was provided in the previous technical progress report. As of February 28, 1974, a total of 18 dealers were on board. During the present quarter, three additional dealers were added:
    A. Frank S. Bangs Company, Wichita, Kansas
    B. Fairview Audio Visual Company, Tulsa, Oklahoma
    C. Exceptional Learning Systems, North Carolina
2. A number of new products became available and were released to the dealers during the quarter. These included the following four components:

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A. Holidayland--21 filmstrips with a teachers guide

B. Storyland--28 filmstrips with a teachers guide

C. Six student Funbooks

D. PAL System dust cover

3. Close liaison was established and continued during the quarter by I.I.I. with their dealers to determine possible improvements required on the first units of the PAL System. Some malfunctions occurred in the drive system and these were remedied. Most problems were minor and infrequent; however, design changes are being made in the system to improve the already high-quality product.

4. Conferences, conventions, and meetings were held by Instructional Industries, Inc. in which materials and equipment were demonstrated. Additionally, the advertising campaign was continued during the quarter. A summary of advertising, demonstration and exhibits, and workshops for dealers is provided below:

Advertising

Magazines

Instructor
K-8

Brochures

Revised single-page flyer

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Demonstrations and Exhibits

March 19-21	Association for Educational Communication Technology Atlanta City
April 1, 2	Michigan Reading Association Grand Rapids
April 14-19	Council for Exceptional Children New York
April 15-18	National Catholic Education Association Cleveland
April 27-May 2	National Association of Elementary School Principals Anaheim
May 1-4	International Reading Association New Orleans
May 6, 7, 8	California Council for Exceptional Children San Francisco

Workshops for Dealers

Brown Associates	Houston, Texas
Southern Photo & Sound	Tampa, Florida

5. Hardware Orders--During the present quarter, a total of 45 Student Response Program Masters (Mod II) were sold. The total included 27 in March, eight in April, and ten in May. The cumulative total of Student Response Program Masters that have been sold since April 16, 1971 is 1,186.

In addition, orders were received for 117 PAL Systems during the quarter. The total included 38 in March, 43 in April, and 36 in May. The cumulative total of PAL Systems that have been sold to date is 236.

It is interesting to note that the PAL Systems outsold the SRPM during the quarter by a ratio of more than two to one. A similar observation was made during the previous quarter. This is an interesting fact,

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particularly since the PAL System has only been on the market for some five months and is not well-known nationally.

6. Software Orders--This was only the second quarter in which a significant number of software orders originated through the efforts of the dealer network. The 21 dealers now cover over 80% of the densely populated areas of the U.S.

During the quarter, software outsold hardware by approximately two to one. During the present quarter, software represented approximately 68% of total sales, whereas hardware represented some 32%. During the entirety of the GE/NFIE Agreement to date, approximately 58% of all sales have been software whereas hardware has accounted for 42%.

In educational audiovisual sales, the summer months usually account for the biggest quarter. It will be interesting to watch the sales pattern during the months of June, July, and August to see whether this occurs, particularly since this is the first year that the GE/LIFE Program has been represented by dealers.

SUMMARY OF SIGNIFICANT MEETINGS

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March 1, 1974 - May 31, 1974

DATE	PERSONNEL	LOCATION	PURPOSE
3/2	Brown Associates sales personnel, Mr. Hal Tately, Pfau	Brown Associates, Houston, Texas	GE/LIFE workshop for Brown sales personnel
3/7	Mr. Don McGee, Fairfax County Program for the Deaf, Spidal	Administration Building, Fairfax, Virginia	Discuss utilization of LIFE in the Fairfax County Programs for the hearing impaired
3/11	Dr. Ray Jones, California State University, Northridge, Spidal	Project Office	Discuss potential cooperative research endeavors between LIFE and CSU
3/11-12	Special Education Supervisors from eight states in Midwest Region, SEIMC-Kansas, RMC-Nebraska, Pfau	Holiday Inn, Omaha, Nebraska	Two-day symposium in which the theme was "Utilizing Products Developed for One Population With Other Populations of Handicapped Children"
3/12	Interns from Continuing Education, Gallaudet College, Spidal, Garner, Lane	Project Office	Orientation of interns to Project LIFE
3/13	Mr. Peter Blume, Mazer Corp., Spidal, Garner, Lane	Project Office	Procedures of developing Spirit Master materials for the Project LIFE materials
3/14	Dr. Dan Hagan and staff of NCEMMH, Ohio State University, Spidal	NCEMMH Offices, Columbus, Ohio	Orientation of NCEMMH to the Project LIFE developmental and validation testing procedures
3/15	Helen Moore, Aurora Public Schools, Cathy Fosmark, Las Cruces, New Mexico, Spidal	Project Office	Orientation of these teachers to the Project LIFE System
3/18	Sales staff of A-V Supply Corp., Pfau	Portland, Oregon	GE/LIFE dealer orientation and workshop

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DATE	PERSONNEL	LOCATION	PURPOSE
3/19	Audio-Graphic Supply Corp., Sales Force, Pfau	San Bernardino, California	GE/LIFE dealer orientation and workshop
3/21	Dr. K. Oman, Professor, Gallaudet College, Spidal	Project Office	Discussion of development of some special materials for instruction for Gallaudet College
3/26	Gallaudet graduate students, Garner, Lane, Pfau	Project Office	Project LIFE orientation
4/2-4	Pfau, Spidal, Garner, Lane	University of Nebraska, Lincoln	Participation in the Tenth Annual Nebraska Symposium sponsored by the Midwest Regional Media Center for the Deaf
4/16	Mr. Peter Ranker, Teacher, Australia (graduate student at Gallaudet College), Spidal	Project Office	Overview of Project LIFE and its application to special students in Australia
4/16-19	Tately, McLaughlin, Pfau, Spidal	Hilton Hotel, New York City	GE/LIFE exhibit and presentations at the annual CEC convention
5/2	Marion Gusfield, Leesburg, Virginia, Spidal	Project Office	Discussion of Project LIFE field test progress in the Leesburg program
5/6	Dianne Phassey, Teacher, Goodwill Industries Program for Hearing Impaired, Washington, D.C., Spidal	Project Office	Discussion of ongoing LIFE testing with illiterate deaf adults
5/10	Dr. Frank Withrow, Battell Memorial Institute, Columbus, Ohio, Pfau, Spidal	Project Office	Discussion of mutual interest in the development of learning games for deaf children

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DATE	PERSONNEL	LOCATION	PURPOSE
5/14	Waldo H. Moore, Chief, Reference Division, Copyright Office, Mark Lillis, Assistant Chief, Reference Division, Copyright Office, Becker, Pfau, Spidal	Copyright Office, Arlington, Virginia	Discussion of appropriate procedures for preparing GE/LIFE copyright registration forms
5/21	Ron Kelly, Midwest Regional Media Center, Yasushi Kikuchi, Teacher, hearing impaired children, Japan, and studying technology at the Midwest Regional Media Center, Pfau, Spidal	Project Office	Orientation to Project LIFE, including review of materials, developmental testing procedures, and field testing network
5/21	Administrative officials of the National Council of Teachers of Mathematics, Pfau, Spidal	NCTM Administrative Offices, Reston, Virginia	Discuss GE/LIFE equipment interface and potential for programmed mathematics at the elementary level
5/21	All teachers--K through 6--of J.C. Parks Elementary School, Pfau	J.C. Parks Elementary, Indian Head, Maryland	GE/LIFE orientation workshop
5/23	Mrs. Peques, Betty Krone, Sharon Carnell, Vicky Reed, Education of the Deaf, Memphis, Tennessee, Spidal	Project Office	Orientation to the GE/LIFE Program
5/29	Judy Defant, graduate student, University of Maryland, Spidal, Pfau	Project Office	Discussion of possible doctoral dissertation topic related to Project LIFE
5/31	Mr. Bill Stevens, Director of Gallaudet College Print Shop, Pfau, Spidal, Lane, Garner, Lewis	Project Office	Establish administrative procedures for certain Project LIFE production needs to be performed by Gallaudet Print Shop

APPENDIX A

"PROJECT LIFE A DECADE LATER: SOME REFLECTIONS AND PROJECTIONS"

by

Dr. Glenn S. Pfau

Director, Project LIFE

Delivered to the

Symposium on Research and Utilization

of Education Media for Teaching the Deaf

Midwest Regional Media Center for the Deaf

University of Nebraska

April 2-4, 1974

"The best way to make children want to learn is to make learning an enjoyable process."

--Dr. Harley Wooden--

Project LIFE Chronology

1926-1929: Basic Research, Columbia University

1929-1948: Conceptualization and General Planning

A. Michigan Department of Special Education

B. Michigan State School for the Deaf

C. Council for Exceptional Children

1948-1962: Specific Planning and Formulation of Objectives

A. National Education Association

B. Council for Exceptional Children

1963: Initial Funding by the U.S. Office of Education

1964-1968: Established and Maintained Instructional Programming Centers

A. Rochester School for the Deaf (Rochester, N.Y.)

B. Ohio State University (Columbus)

C. Our Lady of the Lake College (San Antonio)

1967: Creation of Comprehensive National Field Test Network

1968: Consideration of All Research and Development Efforts at One Location--National Education Association, Washington, D.C.

1971-1973: Test Commercial Viability of Program Through Experimental Marketing--General Electric Company

A. Duration--April 16, 1971 to August 31, 1973

B. Awarded to GE After a Competitive Bidding Process

1973: Began "Commercial Phase" of National and International Marketing--General Electric Company

A. Beginning Date--September 1, 1973

B. Awarded to GE After a Competitive Bidding Process

1973-1974: Creation of a National Dealer Network

A. National Coordinator of Network--Instructional Industries, Inc. (An Independent Affiliate of GE)

B. Purpose of Network--To Better Serve Local Constituents That Are Using the GE/LIFE Program

Conceptual Overview

Project LIFE is one of the longest, if not the longest, continuously funded contracts of the U.S. Office of Education. It was originally funded in June of 1963 and thus is in its eleventh year of research and development. For some 35 years prior to 1963, the project was carefully planned by way of conferences, surveys, questionnaires and research investigations.

Those who conceptualized Project LIFE realized that they were initiating an awesome undertaking when they set out to develop a mediated instructional program that would significantly reduce the language and reading problems of severely hearing impaired children. Several assumptions were made at the outset:

(1) Single shot injections of instructional media, regardless of how effective they were, would make little difference in the lives of children. Rather, what was deemed necessary was a comprehensive array of media and materials that would be used on a daily basis by students over a period of several years.

(2) Students differ in learning characteristics, experiences, needs, interests and motivation. Thus, any comprehensive program would have to be flexible to account for

these interindividual differences--differences between one child and another.

(3) Individual students have academic strengths and weaknesses and are in need of instructional media that are diagnostic-prescriptive in nature and that provide for multi-avenue learning. The Project LIFE program was thus conceptualized to have scores of student entry points, a broad scope of instructional materials in different areas, and several avenues for learning. In this manner, intraindividual differences, or the developmental discrepancies within the child himself, were accounted for.

(4) Teachers will use an instructional system in a variety of different ways, depending upon their personal teaching philosophy, abilities of their students, specific objectives that they wish to accomplish, and the like. Therefore, it was decided to make the Project LIFE program as versatile as possible allowing for individualized/small group/large group instruction, receptive and expressive language practice, portability for use in different settings (classroom, library, home,

dormitory, media resource room, etc.), alternative response modalities, and both print and nonprint media.

(5) The value of instructional materials, regardless of how much pedagogical rationale they seem to have, is minimal unless they are intrinsically motivating to children.

(6) In order for materials to have maximum credence, they must be thoroughly tested on the ultimate user, the student.

(7) The user--the student--must find the materials to be meaningful, interesting, challenging, functional, and enjoyable; otherwise, monies expended on material development are likely to be wasted and efforts fruitless.

It was realized that an endeavor of this magnitude could not be pursued casually. The myriad of sub-problems associated with this type of research and development demanded a vigorous, fully coordinated, and systematic approach. After the project philosophy and general program goals had been established, specific programmatic objectives were stated as follows:

a. Emphasize concept development;

b. Introduce new words in a systematic sequence designed to make maximum utilization of them for acquiring understandings of subsequent instruction;

c. Devise materials and an interface between the child and the materials to increase the language exposures to the maximum extent practicable;

d. Devise ways for making those exposures much more meaningful than most traditional instruction, including well-illustrated or dramatized material for easier and quicker learning;

e. Give special attention to function words, pronouns, adverbs, and various kinds of abstractions;

f. Provide adequate concentration on words and concepts essential for comparing, contrasting, describing, and inquiring;

g. Proceed thoroughly with the instruction of the lexical, structural and other types of meanings;

h. Gradually expand sentence complexity through structural grammar principles;

i. Reduce the confusions that arise from multiple meaning words and expressions; and

j. Provide adequate opportunities to develop receptive/expressive printed language skills through interesting

story books, workbooks, single concept dictionaries, and through other forms of instructional media, as rapidly as new vocabulary and language structures are learned.

Some Reflections

In June of 1974, Project LIFE will complete its eleventh year of continuous operation. It is interesting to pause for a moment and glance back over the years.

It is somewhat startling to note that more than 300 man-years have been expended on the endeavor to date. During this time, the Project LIFE full-time staff has been as large as 30 specialists, with additional part-time personnel. LIFE has incorporated the expertise of more than 110 consultants with their competencies in such diverse fields as educational technology, linguistics, reading, visual perception, cognitive development, deaf education, special education, programmed instruction, photography, art, production, and marketing.

From the beginning, the program was viewed as one particularly unique to severely hearing impaired children. It was thought that their language/reading problems were peculiar and had little correlation to other areas of the handicapped. Some of the early consultants are at first

puzzled when they now learn that four out of every five users are outside the area of the deaf with an anticipation that within four years, 19 out of every 20 users will have no hearing impairment. This should not be interpreted that programs for the deaf are finding the materials non-useful; rather, the schools are finding the materials to be extremely productive and cost-efficient, as is reflected by the fact that approximately one-half of all major programs for the deaf have purchased Project LIFE and that the average school has returned at least two additional times for more purchases.

Between the years of 1963 and 1969, the problem of dissemination was discussed a great deal but never faced head on. It was realized all along that if Project LIFE was to make a difference in children's lives, the materials and equipment would have to receive widespread dissemination. Scores of different dissemination strategies were analyzed. After careful consideration of the options, the U.S. Office of Education made a determination to disseminate the LIFE program through normal commercial channels.

Some 400 companies were offered the opportunity to bid on exclusive distribution rights of the Project LIFE instructional materials; of several submitted proposals, the General Electric Company proposal was evaluated as the most responsive to the RFP that was released by the National Education Association and approved by the USOE. GE, while continuing to maintain supervisory responsibility for the contract, has

subcontracted the work to their independent affiliate, Instructional Industries, Inc., Executive Park, Ballston Lake, New York 12019.

The General Electric Company has determined that the GE/LIFE Program is being well received by nearly every population of the handicapped, as well as non-handicapped programs because of the learning/motivational features of the program. The major distinguishing characteristics are listed as follows:

1. Provides for Individualized Instruction
2. Specified Behavioral Objectives
3. Built-In Diagnostic Tests
4. Carefully Sequenced
5. Student Self-Pacing
6. Intrinsically Motivating
7. Hierarchically Structured
8. Child Centered
9. Visually Oriented
10. Functional and Meaningful
11. Immediate Feedback to Learner
12. Error Accountability
13. Carefully Tested
14. Small, Sequential Learning Steps

15. Active Student Participation

16. Student Is Carefully Guided

17. Intriguing and Flexible

In retrospect, it is now recognized that Project LIFE was probably in error in attempting to develop sophisticated hardware prior to the time that the software system was firmly established. Scores of hardware problems were encountered with some of the reasons attributed to the fact that software format decisions were less than final. A major breakthrough occurred when the project administrators decided to produce all filmstrip materials in the standard 35mm format. This allowed for a wide variety of utilization alternatives, including individualized instruction in a special teaching machine, small group instruction using viewers or low wattage filmstrip projectors, and large group instruction using full-power classroom projectors with front surface projection screens. The special equipment, as designed by the General Electric Company also allows for maximum flexibility in that they will not only accept the LIFE programmed filmstrips but any other filmstrip in the school's media library.

During the years 1963-68, the developmental aspects of Project LIFE were attempting to function in up to eight states simultaneously. Programming specialists were working in three states, while art, production, and administrative personnel were located in up to five other states. The

unified coordination of the effort was extremely difficult. The project made a giant leap forward in efficiency when a decision was made in 1968 to consolidate all personnel and all efforts in Washington, D.C. at the National Education Association. A single concerted effort has continued in one location since that time.

As one reflects, it is interesting to note how the different components of the LIFE program evolved. All of the early efforts were in the area of programmed language and reading development. It was felt that the vast majority of children could experience success when starting at this level. However, it was soon determined that many young children had visual perception problems. Thus, the project conceived the Perceptual Training Series which emphasizes discrimination in the prereading skills of visual properties, additions/omissions, position in space, spatial relations and figure ground.

It was believed by the consultants and staff of Project LIFE that the vast majority of children could experience success in the language/reading materials after they had successfully completed the Perceptual Training Series. However, it was discovered that a sizable number of children still had inadequate cognitive development to proceed directly to the Language/Reading Series with a high probability of success. For this reason, the Perceptual/Thinking Series was designed to bridge the gap between the

Perceptual Training Series and the Language/Reading Series. The basic purpose of the Perceptual/Thinking Series was to provide the student with multiple relevant opportunities to practice the various intellectual tasks which contribute to the normal development of cognition, memory, convergent thinking, and evaluation. Some of the sub-tasks programmed within the series included: sequencing, classification, transformation, association, foreseeing consequences, analogies, relationships, and inferences.

In looking back over the years, it is readily apparent that the projected expenditures for developmental testing and validation testing were grossly underestimated. The project's field test network grew from 10 centers in 1967 to more than 100 centers in 1971; during the 1973-74 academic year, approximately 50 centers were maintained. All centers are provided with a complete array of extant materials, as well as the necessary equipment to use the materials according to recommended procedures. All demographic and student performance data are compiled and analyzed by the Project LIFE Research Department.

In addition to validation (field) testing, a considerable amount of effort is expended on developmental testing--testing on a one-to-one basis with the target population. Combining both types of testing, it has now been determined that approximately one-third of the total budget must be used to insure that a program realizes its specified behavioral objectives.

Present Status and Projections

The General Electric/Project LIFE Program is comprised of a comprehensive array of software and dependable/compatible hardware. The instructional materials presently available include:

1. Perceptual Training Series (pre-reading)--30 filmstrips;
2. Perceptual/Thinking Activity Series (pre-reading)--51 filmstrips;
3. Perceptual/Thinking Activity Series (primary)--51 filmstrips;
4. Language/Reading Series (Level I)--60 filmstrips;
5. Language/Reading Series (Level II)--64 filmstrips;
6. Language/Reading Series (Level III)--65 filmstrips;
7. Language/Reading Series (Level IV)--64 filmstrips;
8. Storyland Reading Experience Series--28 filmstrips;
9. Holidayland Reading Experience Series--21 filmstrips;
10. Four Story Books;
11. Six Student Fun Books (Workbooks);
12. My LIFE Pictionary--Verbs (My LIFE Pictionary--Multiple Meanings soon to be released);
13. Student Progress Records;
14. Instruction Manual (192 page comprehensive operational manual covering complete program).

Compatible equipment has been, and is continuing to be, devised that will offer the user maximum versatility. The two major pieces of equipment presently offered include: (1) PAL System--totally self-contained, and (2) the Student Response Program Master Mod II (SRPM). The newest equipment, the PAL, was developed after years of engineering research and development. The SRPM has been offered for sale for approximately two years and it is capable of controlling scores of filmstrip and slide projectors, as well as certain movie and slide/sound or filmstrip/sound projectors. Presently under development at the General Electric Company are inexpensive response sheets and response devices costing under $20.00.

The number of students that are learning from the General Electric/Project LIFE Program is rapidly increasing each year. The more than 800 programs using Project LIFE materials are found in all of the 50 United States as well as in six foreign countries. It is estimated that as the software and hardware components continue to expand and diversify, the number of children using the system will increase geometrically. It is predicted that more than one million children will be learning (or will have learned) from the GE/LIFE Program by the 1976-77 academic year.

In the immediate future, the Project LIFE software system will be expanded to include Language/Reading Level V (Sets 33-40), and additional pictionaries, story books, and fun books. A mathematics series

is presently being conceptualized and will be released during the 1974-75 academic year. This series will deal somewhat with the computational aspects of mathematics but will emphasize the "language of mathematics." Another series in the planning stages is high visual interest/low verbal level materials for the adolescent and upper level student.

In addition to developing simple, non-mechanical response modes, it is anticipated that hardware will soon be offered which has synchronized auditory capability. A number of schools have suggested that the Project LIFE learning interface is ideally suited for auditory supplementation, auditory comprehension/discrimination, and the teaching of phonics. A needs analysis has revealed that Project LIFE should also consider the development of learning games. In addition, Project LIFE has received scores of recommendations to develop programs in the subject matter areas--specifically, geography, history, science, and career education.

It is feasible that the GE/LIFE Program could become the most comprehensive and widely used mediated system in the United States within a few years. The future success of the program is contingent upon continued validation before dissemination; that is, it is critical that the materials be carefully classroom tested to insure that they meet specified behavioral criteria before they are released for commercial dissemination.

Finally, and possibly most important, the materials must be meaningful, interesting, challenging, functional, and enjoyable to the learner. The student must discover for himself that learning is not only important but that it can be fun!

With A PAL*

Kids Love LIFE

General Electric and Project LIFE have developed an exciting language system for children at the pre-school through elementary grade levels. It introduces them to the wonders of reading as a fun-filled learning experience.

The General Electric/Project LIFE System is designed to be totally integrated and comprehensive. It's adaptable to the individual child or group in achieving functional language skills.

The heart of the system is programmed language filmstrips operating in the PAL student response unit.

Over 350 filmstrips have been developed to date in three concentrated and critical core areas—Perceptual Training, Perceptual Thinking and Language/Reading. PAL, Programmed Assistance to Learning, allows a child to choose his answer and advance when correct. At the same time it provides the teacher with a record of progress. The result is a *developmental* reading program when used in its entirety, and it's also a strong *remedial* program backed up by diagnostic testing.

We're different... And we're proud of our uniqueness. One reason is because we offer a totally comprehensive system. This includes a wide assortment of integrated support materials to reinforce the General Electric/Project LIFE lessons.

- Instruction manual
- Teacher Formats
- Storyland and Holidayland Supplements
- Sections for pre-test, post-test, and retentive-test measurement
- Student Workbook
- Picture storybooks
- Pictionaries for word usage

For more information just send us the coupon.

*PAL (Programmed Assistance to Learning) is manufactured and marketed by Instructional Industries, Inc. under contract with General Electric Company.

GENERAL ELECTRIC

INSTRUCTIONAL INDUSTRIES, INC.
Executive Park, Ballston Lake, New York 12019
(518) 877-7466

Name _____
Position _____
School _____
Street Address _____
City _____ State _____ Zip _____
Phone _____

995-29

EQUIPMENT CHARACTERISTICS & SPECIFICATIONS

PAL System

Student Response Program Master
(requires attachment to remote control filmstrip projector)

120 volts, 60 hertz, 350 watts max.	**Power Requirements**	120 volts, 60 hertz, 200 watts max.
12 inches	**Height**	4-1/2 inches
14-1/2 inches	**Width**	10-7/8 inches
15-1/4 inches	**Depth**	7 inches
25 pounds	**Weight**	5-1/2 pounds
Beige & Black, with white silk-screened lettering	**Color**	Brown wood grain, with black & chrome trim
Self-contained rear projection Image size 7-1/4 x 9-1/2 inches	**Screen**	Optional mounted rear projection screen Image size 7 x 9 inches

- **Any filmstrip** materials may be used with the PAL System or the Student Response Program Master, by use of the code bypass switch. This feature allows viewing or previewing any filmstrip materials.
- **Remote Control** of other visual devices* is a feature provided by both the PAL System and the Student Response Program Master. This provides the user with the capability of preparing his own materials in the form of slides, prior to filmstrip production.
- **Additional Functions** and controls include response buttons (square, cross, circle, triangle), GO Button, Response Code Selector and Reset, Error Counter, Code Bypass, and Master Power. PAL projector controls include side mounted focus, continuous frame adjustment, automatic normal or center feed, and film exit accepts both forward and reverse wound film.
- **Projector features** include high quality film advance mechanism for positive framing, simple threading guides to prevent filmstrip damage or scratching, easy lamp replacement and lens removal for cleaning.

Project LIFE Instructional Materials

Filmstrip Series	No. Filmstrips	Supporting Materials
Perceptual Training (Pre-Reading)	30	Storyland Filmstrips (28)
Perceptual/Thinking (Pre-Reading)	51	Holidayland Filmstrips (21)
Perceptual/Thinking	51	My LIFE Pictionary—Verbs
Language/Reading (Level I)	60	My LIFE Pictionary—Multiple Meanings
Language/Reading (Level II)	64	Instruction Manual
Language/Reading (Level III)	65	Student Workbooks
Language/Reading (Level IV)	32	Storybooks (The Parade, The Race, The Bears, Flying)